Commonwealth of Virginia
Syndromic Surveillance Submission Guide:
Emergency Department and Urgent Care Data
HL7 version 2.5.1

Prepared by:

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VDH VIRGINIA DEPARTMENT OF HEALTH
Protecting You and Your Environment

Introduction

Virginia Department of Health (VDH) compiled this guide for eligible hospitals and urgent care centers who wish to demonstrate meaningful use of certified electronic health record technology by the submission of syndromic surveillance data. The information in this implementation guide is based on the *PHIN Messaging Guide for Syndromic Surveillance: Emergency Department and Urgent Care Data* (October 2011) with VDH-specific amplifications and constraints. The HL7 2.5.1 data elements requested by VDH for syndromic surveillance submission are listed below by message segment.

Please note that not all the information presented in the *PHIN Messaging Guide for Syndromic Surveillance: Emergency Department and Urgent Care Data* is replicated in this document. VDH compiled this guide to assist facilities with understanding what data elements an HL7 2.5.1 message should contain for syndromic surveillance submission in Virginia. Please refer to *PHIN Messaging Guide for Syndromic Surveillance: Emergency Department and Urgent Care Data* for additional information.

Useful Resources

PHIN Messaging Guide for Syndromic Surveillance: Emergency Department and Urgent Care-
http://www.cdc.gov/ehrmeaningfuluse/Docs/PHIN%20MSG%20Guide%20for%20SS%20ED%20and%20UC%20Data%20Release%201.pdf

Value sets for syndromic surveillance date elements-
http://phinvads.cdc.gov/vads/ViewView.action?name=Syndromic Surveillance

Virginia Department of Health Meaningful Use website-
http://www.vdh.state.va.us/clinicians/meaningfuluse/

Syndromic Surveillance in Virginia

Syndromic surveillance is near real-time surveillance that tracks chief complaints of patients who present to emergency and urgent care settings and allows public health officials to monitor trends and investigate unusual increases in symptom presentations. The purpose of syndromic surveillance is to improve the health of a community through earlier detection of emerging public health events**.** VDH uses a syndromic surveillance system called Electronic Surveillance System for the Early Notification of Community-based Epidemics, also known as ESSENCE. ESSENCE provides near real-time situational awareness of potential public health threats and emergencies by alerting VDH epidemiologists when unusual increases in symptom presentations are detected in the community.

Data Submission Parameters

- Syndromic surveillance data should be submitted to VDH in batch format rather than through individual messages.
- Batched messages should be sent as early as possible after midnight containing all visits from the preceding day.
- Facilities should submit all visits to the emergency department or urgent care center with no filtering done prior to submission to VDH.

Supported ADT Message Types

Three message transactions types can be accepted for syndromic surveillance submission:

ADT^A04 (Registration) – A patient has arrived or checked in as a one-time, or recurring outpatient, and is not assigned to a bed.

ADT^A08 (Patient Information Update) – Patient information has changed but no other trigger event has occurred.

ADT^A03 (Discharge) – A patient's stay in a healthcare facility has ended and their status is changed to discharged.

Required Message Segments

The message segments that are requested for syndromic surveillance submission differ by message transaction type.

R = Required to be sent
RE = Required to be sent but can be empty if information is not available

Segment	ADT^A04	ADT^A08	ADT^A03
Message Header (MSH)	R	R	R
Event Type (EVN)	R	R	R
Patient Identification (PID)	R	R	R
Patient Visit (PV1)	R	R	R
Patient Visit - Additional Information (PV2)	RE	RE	RE
Observation/Result (OBX)	R	R	R
Diagnosis (DG1)	RE	RE	R

Data Element Specifications

The tables below outline the data elements by message segment that are requested for syndromic surveillance submission.

MESSAGE HEADER SEGMENT (MSH)				
Field Name	**Seq**	**DT**	**Length**	**Notes/Value Set**
Field Separator	1	ST	1	Default value "|"
Encoding Characters	2	ST	4	Default values "^~\&"
Sending Facility	4	HD	27	Field that uniquely identifies the facility associated with the application that sends the message. If Acknowledgements are in use, this facility will receive any related Acknowledgement message.
Namespace ID	4.1	IS	20	Name of the sending facility. Use full name of sending facility, no codes or abbreviations will be accepted. If message is sent by a vendor on behalf of a health care facility, the name of vendor should be used.
Universal ID	4.2	ST	199	NPI (National Provider Identifier) should used. If the sending facility does not have an NPI, please discuss the use of an alternate ID with VDH.
Universal ID Type	4.3	ID	6	Expecting value "NPI" if used NPI or "ID" is used alternate identifier.
Receiving Application	5	HD	227	Literal value: "SYNDSURV"
Receiving Facility	6	HD	227	
Namespace ID	6.1	IS	20	Literal value: "VDH"
Universal ID	6.2	ST	199	Literal value: "2.16.840.1.114222.4.1.184"
Universal ID Type	6.3	ID	6	Literal value: "ISO"
Date/Time of Message	7	TS	26	Date/Time the sending system created the message in the following format: *YYYYMMDDHHMM*

Message Type	9	MSG	15	All messages will be Admit-Discharge-Transfer (ADT) message types. The triggering event is a real-world circumstance causing the message to be sent. Supported trigger events are A04 (Emergency Department Registration), A08 (Update), and A03 (Discharge).
Message Code	9.1	ID	3	Literal value: “ADT” or “ACK”
Trigger Event	9.2	ID	3	One of the following literal values: “A03”, “A04”, or “A08”
Message Structure	9.3	ID	7	Trigger events A04 and A08 share the same “ADT_A01” Message structure. One of the following literal values: “ADT_A01” or “ADT_A03”, or “ACK”
Message Control ID	10	ST	199	This field is a number or other identifier that uniquely identifies the message.
Processing ID	11	PT	3	Indicates how to process the message. Literal values: “P” for Production or “D” for Debugging
Version ID	12	VID	5	Literal value: “2.5.1”

EVENT TYPE SEGMENT (EVN)				
Field Name	**Seq**	**DT**	**Length**	**Notes/Value Set**
Recorded Date/Time	2	TS	26	Most systems default to the system Date/Time when the transaction was entered. Format: *YYYYMMDDHHMM*
Event Facility	7	HD	241	Location where the patient was actually treated. If using HL7 2.3.1, event facility information should be submitted in OBX segment.
Namespace ID	7.1	IS	20	Full name of facility where patient presented for treatment. No codes or abbreviations will be accepted.
Universal ID	7.2	ST	1999	National Provider Identifier (10 digit identifier).
Universal ID Type	7.3	ID	6	Literal value: “NPI”

PATIENT IDENTIFICATION SEGMENT (PID)				
Field Name	**Seq**	**DT**	**Length**	**Notes/Value Set**
Patient Identifier List	3	CX	478	PID.3 is a repeating field that can accommodate multiple patient identifiers**.** Patient's unique identifier(s) from the facility that is submitting this report to public health. Different jurisdictions use different identifiers and may often use a combination of identifiers to produce a unique patient identifier. Patient identifiers should be strong enough to remain a unique identifier across different data provider models, such as a networked data provider or State HIE.
ID Number	3.1	ST	15	Use patient medical record (MR) number or equivalent such as master person index (MPI) identifier. The identifier provided should allow the facility to retrieve information on the patient if additional information is requested by VDH.
Identifier Type Code	3.5	ID	5	*Value Set:* Identifier Type (Syndromic Surveillance) Use the Identifier Type Code that corresponds to the type of ID Number specified in PID-3.1. For Medical Record Number, use literal value "MR".
Patient Name	5	XPN	294	Patient name should not be sent. The patient name field must still be populated even when reporting de-identified data.
Name Type Code	5.7	ID	1	When the name of the patient is known, but not being sent, HL7 recommends the following: |~^^^^^^S|. The "S" for the name type code (PID-5.7) in the second name field indicates that it is a pseudonym.
Date/Time of Birth	7	TS	26	Format: *YYYYMMDD*
Administrative Sex	8	IS	1	Value Set: *Administrative Sex (HL7)*
Race	10	CE	478	Value Set: *Race Category (CDC)* Race should be submitted if known. Patient could have more than one race defined.
Identifier	10.1	ST	20	Standardized code for patient race category.
Text	10.2	ST	199	Standardized text description that corresponds with code in PID-10.1.

Name of Coding System	10.3	ID	20	Literal value: “CDCREC”
Patient Address	11	XAD	513	Expecting the primary residence of the patient and not the billing address.
ZIP or Postal Code	11.5	ST	12	5-digit zip code
Ethnic Group	22	CE	478	Value set: *Ethnicity Group (CDC)* Ethnicity should be submitted if known.
Identifier	22.1	ST	20	Standardized code for patient ethnicity category.
Text	22.2	ST	199	Standardized text description that corresponds with code in PID-22.1.
Name of Coding System	22.3	ID	20	Literal value: “CDCREC”

PATIENT VISIT SEGMENT (PV1)				
Field Name	**Seq**	**DT**	**Length**	**Notes/Value Set**
Patient Class	2	IS	1	Literal values: “E” for emergency department visits, or “O” for outpatient visits to urgent care facility.
Visit Number	19	CX	478	
ID Number	19.1	ST	15	Unique identifier for a patient visit.
Identifier Type Code	19.5	ID	227	Literal value: “VN”
Discharge Disposition	36	IS	3	Value set: *Discharge Disposition (HL7)* Should be sent upon patient’s departure from emergency department or urgent care facility, if available in patient record. Disposition provides the outcome of patient’s visit (i.e. Discharged to home, Transferred to another facility, Expired, Admitted as inpatient).
Admit Date/Time	44	TS	26	Date and time the patient presented to facility for treatment.

PATIENT VISIT – ADDITIONAL INFORMATION SEGMENT (PV2)				
Field Name	**Seq**	**DT**	**Length**	**Notes/Value Set**
Admit Reason	3	CE	478	Values from standards code sets: ICD-9, ICD-10, or SNOMED. Standard coded values that express the reason for visit given by patient. If a free-text reason for visit is available please insert this into OBX segment as the chief complaint.
Identifier	3.1	ST	20	Standardized code for reason for visit.
Text	3.2	ST	199	Standardized text description that corresponds to the code provided in 3.1.
Name of Coding System	3.3	ID	20	Literal values: “I9CDX”, “I10”, or “SCT”

OBSERVATION/RESULT SEGMENT (OBX)				
Field Name	**Seq**	**DT**	**Length**	**Notes/Value Set**
Chief Complaint	3	CWE		Value Set: *PHVS_ObservationIdentifier_SyndromicSurveillance* **The use of free-text to describe the reason for visit is *strongly preferred* over standard coded values**. If a free-text reason in OBX is provided then a standard-coded value does not need to be submitted in PV2-3.
Triage Notes	3	TX		Value Set: *PHVS_ObservationIdentifier_SyndromicSurveillance* Should be submitted if available in patient record.
Body Temperature	3	NM		Value Set: *PHVS_ObservationIdentifier_SyndromicSurveillance* Should be submitted if available in patient record.

DIAGNOSIS SEGMENT (DG1)				
Field Name	**Seq**	**DT**	**Length**	**Notes/Value Set**
Diagnosis Code	3	CE	478	Values from standards code sets: ICD-9, ICD-10, or SNOMED. Should be sent upon patient's departure from emergency department or urgent care facility.
Identifier	3.1	ST	20	Standardized code for diagnosis.
Text	3.2	ST	199	Standardized text description that corresponds to the code provided in 3.1.
Name of Coding System	3.3			Literal values: "I9CDX", "I10", or "SCT"
Diagnosis Type	6	IS	2	Value set: *Diagnosis Type (HL7)* Identifies the type of diagnosis being sent. Literal values: "A" for Admitting diagnosis, "W" for Working diagnosis, or "F" for Final diagnosis.

A04 Message Example - Patient X is registered at the emergency department

MSH|^~\&||HEALTH SYSTEM
NAME^999999999^NPI|SYNDSURV|VDH^2.16.840.1.114222.4.1.184^ISO|201203300000||ADT^A04^ADT_A01|1234567890|D|2.5.1
EVN||201203270000|||||HOSPITAL NAME^1111111111^NPI
PID|1||9999000000^^^^MR^^||~^^^^^^S||19700115|M||2106-3^White^CDCREC|^^^^20105^^^^||||||||||2186-5^Not Hispanic or Latino^CDCREC
PV1||E|||||||||||||||2222000068^^^^VN|||||||||||||||||||||||201203270000
OBX|1|CWE|8661-1^Chief complaint:Find:Pt:Patient:Nom:Reported^LN||^^^^^^^^Headache Fell Down Hit Head||||||F

A03 Message Example - Patient X is discharged to home from the emergency department

The additional information included in the A03 message compared to the A04 message is in **bold**

MSH|^~\&||HEALTH SYSTEM NAME^999999999^NPI|SYNDSURV|VDH^2.16.840.1.114222.4.1.184^ISO|201203300000||ADT^A03^ADT_A03|1234567890|D|2.5.1

EVN||201203270000|||||HOSPITAL NAME^1111111111^NPI

PID|1||9999000000^^^^MR^^||~^^^^^^S||19700115|M||2106-3^White^CDCREC|^^^^20105^^^^||||||||||2186-5^Not Hispanic or Latino^CDCREC

PV1||E|||||||||||||||2222000068^^^^VN|||||||||||||||**01**|||||||201203270000

OBX|1|CWE|8661-1^Chief complaint:Find:Pt:Patient:Nom:Reported^LN||^^^^^^^^Headache Fell Down Hit Head||||||F

DG1|1||959.01^HEAD INJURY NOS^I9CDX|||A

DG1|2||959.01^HEAD INJURY NOS^ I9CDX |||F

DG1|3||784.0^HEADACHE^ I9CDX |||F

DG1|4||E888.9^FALL NOS^ I9CDX |||F

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